

**What is claimed is:**

1. A hand tool comprising:

a handle;

a head attached to the handle, the head defining a compartment;

a gear wheel rotatably mounted in the compartment, the gear wheel including a plurality of gear wheel teeth and having a rotational axis about which the plurality of gear wheel teeth rotate; and

a pawl disposed in the compartment, the pawl comprising a plurality of pawl teeth, the pawl teeth comprising a first teeth portion having a first center of curvature and a second teeth portion having a second center of curvature, wherein the gear wheel teeth mesh with the first teeth portion or the second teeth portion and wherein the first center of curvature and the second center of curvature are located at different positions; and

wherein the pawl is movable between a first position and a second position by pivoting about the rotational axis of the gear wheel.

2. The hand tool of claim 1, wherein the compartment comprises a first section and a second section, the second section being smaller than the first section, and wherein the gear wheel is rotatably mounted in the first section and the pawl is mounted in the second section.

3. The hand tool of claim 2, wherein the second section is defined by a wall, the wall including a first wall portion and a second wall portion and wherein the pawl bears against the first wall portion in the first position and against the second wall portion in the second position.

4. The hand tool of claim 1 wherein the tool is adapted to tighten or loosen a fastener.
5. The hand tool of claim 4 further comprising a drive member attached to the gear wheel.
6. The hand tool of claim 5 wherein the drive member comprises a drive column for releasably engaging a socket.
7. The hand tool of claim 1 wherein the pawl teeth form a substantially concave surface.
8. A tool comprising:
  - a handle;
  - a head attached to the handle, the head including a compartment and a wall, the wall including a first wall portion and a second wall portion, wherein the wall at least partially defines the compartment;
  - a gear wheel rotatably mounted in the compartment, the gear wheel comprising a plurality of gear wheel teeth; and
  - a pawl disposed in the compartment, the pawl comprising a first side, the first side including a plurality of pawl teeth engaging the gear wheel teeth, the pawl teeth comprising a first teeth section having a first center of curvature and a second teeth section having a second center of curvature located at a position different from the first center of curvature, the first teeth section engaging the gear wheel teeth when the pawl is in a first position and the second teeth section engaging the gear wheel teeth when the pawl is in a second position with the pawl bearing against the first wall portion in the first position and against the second

wall portion in the second position.

9. The tool of claim 8, wherein the compartment comprises a first compartment section and a second compartment section, the second compartment section being smaller than the first compartment section, the second compartment section being defined by the first wall portion and the second wall portion, the gear wheel being disposed in the first compartment section, and the pawl being disposed in the second compartment section.
10. The tool of claim 8, wherein the gear wheel has an outer periphery and the pawl is movable between the first position and the second position by moving along the outer periphery of the gear wheel.
11. The tool of claim 8 further comprising a drive member attached to the gear wheel.
12. The tool of claim 11 wherein the drive member comprises a drive column for releasably engaging a socket.
13. The tool of claim 12 wherein the pawl teeth are continuous.
14. The tool of claim 8 wherein the pawl further comprises a second side and wherein the first side of the pawl includes a first face and a second face, the first and second faces extending from the pawl teeth and adjoining the second side.

15. A tool comprising:

a body having a head and a handle formed of a single piece, the head having a first compartment, the first compartment having a maximum diameter, and a second compartment, the second compartment having an opening for communicating with the first compartment, the opening having a width that is less than the maximum diameter of the first compartment;

a gear wheel rotatably mounted in the first compartment, the gear wheel comprising a plurality of gear wheel teeth; and

a pawl disposed in the second compartment, the pawl comprising a plurality of pawl teeth facing the gear wheel teeth, the pawl teeth comprising a first teeth portion having a first center of curvature and a second teeth portion having a second center of curvature, the second center of curvature being located at a position different from the first center of curvature.

16. The tool of claim 15 further comprising a drive member attached to the gear wheel.

17. The tool of claim 16 wherein the drive member comprises a drive column for releasably engaging a socket.

18. The tool of claim 15, wherein the gear wheel is rotatably mounted in the first compartment and the pawl is mounted in the second compartment.

19. The tool of claim 15, wherein the pawl teeth are noncontinuous.

20. The tool of claim 15, wherein the head further comprises:

a top surface having a hole located between the first compartment and the handle; and  
a third compartment extending from the hole in the top surface and being perpendicular to the top surface.

21. The tool of claim 15, wherein the pawl is movable between a first position and a second position by rotating about the gear wheel.

22. The tool of claim 15, wherein the pawl teeth form a substantially concave surface.

23. A tool comprising:

a handle;

a head attached to the handle, the head including a compartment, the compartment comprising a first section and a second section, the second section having a smaller diameter than the first section, and the second section being at least partially defined by a wall, the wall comprising a first wall portion and a second wall portion;

a gear wheel rotatably mounted in the first section, the gear wheel comprising a plurality of gear wheel teeth; and

a pawl disposed in the second section, the pawl comprising a first side with a plurality of pawl teeth engaging the gear wheel teeth, the pawl teeth including a first teeth portion having a first center of curvature and a second teeth portion having a second center of curvature located at a position different from the first center of curvature, the pawl being movable between a first position and a second position by pivoting about the rotational axis of the gear wheel, and wherein the pawl further comprises a second side that bears against the

first wall portion in the first position and against the second wall portion in the second position.

24. The tool of claim 23 wherein the tool is adapted to tighten or loosen a fastener.

25. The tool of claim 24 further comprising a drive member attached to the gear wheel.

26. The tool of claim 25 wherein the drive member comprises a drive column for releasably engaging a socket.

27. A tool comprising:

a handle;

a head extended from the handle, the head defining a compartment;

means for tightening or loosening a fastener, the means for tightening or loosening being disposed in the compartment; and

a pawl disposed in the compartment, the pawl comprising a plurality of pawl teeth, the pawl teeth comprising a first teeth portion having a first center of curvature and a second teeth portion having a second center of curvature located at a position different from the first center of curvature.

28. The tool of claim 27 wherein the means for tightening or loosening a fastener comprises means for releasably engaging a socket.

29. The tool of claim 27 wherein the means for tightening or loosening a fastener comprises a gear wheel, the gear wheel having a plurality of gear wheel teeth and having a central axis about which the gear wheel revolves.

30. The tool of claim 29, wherein the pawl is movable between a first position and a second position by rotating about the central axis.

31. A hand tool for tightening and loosening a fastener, comprising:

a unitary body having a handle portion and a head portion, the head portion having a first space; and

a pawl disposed in the first space, the pawl comprising a first side, the first side including a first plurality of teeth and a second plurality of teeth, the first plurality of teeth having a first center of curvature and the second plurality of teeth having a second center of curvature, said first and second centers of curvature being located at different positions.

32. The hand tool of claim 31, wherein the pawl further comprises a second side and wherein the first side of the pawl includes a first face adjoining the first plurality of teeth and a second face adjoining the second plurality of teeth, the first and second faces also adjoining the second side.

33. The hand tool of claim 31, wherein the first space has a bottom portion, a top portion, a first wall portion, and a second wall portion, the first and second wall portions extending from the top portion to the bottom portion and being substantially perpendicular to the top portion and to the bottom portion.

34. The hand tool of claim 33, wherein said top portion and said bottom portion are substantially semi-circular.
35. The hand tool of claim 33, wherein said top portion and said bottom portion are arcuate.
36. The hand tool of claim 33, wherein the unitary body has a top surface, and wherein the head further has a hole in the top surface extending a depth into the head, the hole communicating with the first space.
37. The hand tool of claim 36, further comprising a transmission member, the transmission member being disposed in the hole.
38. The hand tool of claim 37, wherein the transmission member is coupled to the pawl.
39. The hand tool of claim 31, wherein the head further has a second space, and the tool further comprises a means for loosening and tightening a fastener, the means for loosening and tightening being disposed in the second space.
40. The hand tool of claim 39, wherein the first space has a first opening communicating with the second space and wherein the first space has a second opening between the first wall portion and the second wall portion, the second opening communicating with the hole.

41. The hand tool of claim 39, wherein the first space has an opening between the first and second wall portions, the opening communicating with the hole.
42. The hand tool of claim 39, wherein the first plurality of teeth and the second plurality of teeth are concave and continuous.
43. The hand tool of claim 39, wherein the first plurality of teeth is concave and the second plurality of teeth is concave.
44. The hand tool of claim 43, wherein the first plurality of teeth and the second plurality of teeth are noncontinuous.
45. The hand tool of claim 31, further comprising a gear wheel disposed in the head, the gear wheel having an outer periphery, and wherein the first plurality of teeth and the second plurality of teeth pivot about the outer periphery of the gear wheel.
46. The hand tool of claim 31, wherein the first side further includes a first face spaced from a second face by the first plurality of teeth and by the second plurality of teeth.
47. The hand tool of claim 46, wherein the pawl further includes a second side substantially opposite the first side, and wherein the first face abuts the second side and wherein the second face abuts the second side.

48. The hand tool of claim 46, wherein the first face and the second face are each planar.
49. The hand tool of claim 46, wherein the pawl further includes a second side substantially opposite the first side, and wherein the first face extends from the first plurality of teeth to the second side and wherein the second face extends from the second plurality of teeth to the second side.
50. A reversible ratcheting hand tool comprising:
- a handle;
  - a head attached to the handle, the head defining a first compartment and a second compartment;
  - a gear wheel rotatably mounted in the first compartment, the gear wheel including a plurality of gear wheel teeth and having a rotational axis about which the gear wheel teeth rotate; and
  - a pawl disposed in the second compartment, the pawl including a first side, the first side comprising a plurality of pawl teeth facing the gear wheel teeth, the plurality of pawl teeth forming a substantially concave surface, wherein the plurality of pawl teeth comprises a first portion and a second portion, the second portion being disengaged from the gear wheel teeth when the first portion is engaged with the gear wheel teeth and the first portion being disengaged from the gear wheel teeth when the second portion is engaged with the gear wheel teeth.
51. The hand tool of claim 50 wherein the pawl is movable between a first position and a second position by pivoting about the rotational axis of the gear wheel.

52. The hand tool of claim 50 wherein the first portion has a first center of curvature and wherein the second portion has a second center of curvature located at a position different from the first center of curvature.

53. The hand tool of claim 50 wherein the first portion and the second portion form a continuous plurality of pawl teeth.

54. The hand tool of claim 50 wherein the first portion and the second portion form a noncontinuous plurality of pawl teeth.

55. The hand tool of claim 50 wherein the pawl further comprises a second side and wherein the first side comprises a first face and a second face, the first and second faces extending from the first and second portions, respectively, and adjoining the second side.

56. The hand tool of claim 50 further comprising a drive member attached to the gear wheel and disposed in the first compartment.

57. The hand tool of claim 56 wherein the drive member includes a drive column for releasably engaging with a socket.

58. The hand tool of claim 50 wherein the first portion forms a first concave surface and the second portion forms a second concave surface.

59. A ratcheting hand tool, comprising:

a unitary body including a head and a handle;

a gear wheel having an outer portion and being disposed in the head;

a pawl disposed at least partially about the outer portion of the gear wheel, the pawl having a first concave teeth portion and a second concave teeth portion, and the pawl capable of being moved between a first ratcheting position and a second ratcheting position;

the gear wheel transmitting a first force only to the first teeth portion when the pawl is in the first ratcheting position and the handle is rotated in a first direction; and

the gear wheel transmitting a second force only to the second teeth portion when the pawl is in the second ratcheting position and the handle is rotated in a second direction.

60. The ratcheting hand tool of claim 59, wherein the first teeth portion is comprised of at least three teeth and wherein the second teeth portion is comprised of at least three teeth.

61. The ratcheting hand tool of claim 60, wherein the first teeth portion and the second teeth portion are noncontinuous.